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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,617	06/22/2001	Andreas Bulan	Mo-6266/LeA 34,259	7348

157 7590 09/09/2002

BAYER CORPORATION  
PATENT DEPARTMENT  
100 BAYER ROAD  
PITTSBURGH, PA 15205

EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1741

DATE MAILED: 09/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/887,617	BULAN ET AL.	
	Examiner	Art Unit	
	Edna Wong	1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

This is in response to the Amendment dated August 20, 2002. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Response to Arguments***

#### **Claim Rejections - 35 USC § 112**

Claims **6-7 and 9** have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 6-7 and 9 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicants' amendment.

#### **Claim Rejections - 35 USC § 102**

I. Claims **1 and 7-10** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Heider et al.** (US Patent No. 6,264,818).

The rejection of claims 1 and 7-10 under 35 U.S.C. 102(e) as being anticipated by Heider et al. is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that Heider does not teach the continuous preparation of the perfluorinated organic compounds. Heider discloses at col. 3, lines 42-44, that the "liquid reaction product is periodically withdrawn and the volume withdrawn is replaced

by adding hydrogen fluoride with a new starting material". In response, Heider teaches that the electrolysis took place at a cell voltage of from 4.0 to 5.1 volts and at a current density of from 0.44 to 0.55 A/dm<sup>2</sup>, and was terminated after 517 Ah throughput (col. 4, lines 21-24). The electrolysis was continuous until after 517 Ah throughput (also see cols. 4-8, Examples 2-4) because Heider does not teach that the cell voltage or current density is stopped or interrupted. Therefore, the electrolysis was continuous.

**II.** Claims **1, 7 and 10** have been rejected under 35 U.S.C. 102(b) as being anticipated by **DE 2,725,211**.

The rejection of claims 1, 7 and 10 under 35 U.S.C. 102(b) as being anticipated by DE 2,725,211 is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants' state that DE '211 anodes are conditioned for the electrochemical fluorination process and relate to an application that is fundamentally different from Applicants' invention. In response, the claims as presently written use the word "comprising". The use of the word "comprising" opens the claims to (or does not exclude) using (i) anodes having surfaces that have been mechanically roughened and (ii) an electrolyte which has already been electrolyzed with a quantity of electricity of more than or equal to 1 Ah per cc of electrolyte and/or which has already produced 0.05 g of perfluoroalkanesulphonyl fluorides.

III. Claims **1, 4, 6-8 and 10** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Bulan et al.** (US Patent No. 5,366,597).

The rejection of claims 1, 4, 6-8 and 10 under 35 U.S.C. 102(b) as being anticipated by Bulan et al. is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants' state that Bulan '597 simple lacks the details to disclose a process for the continuous preparation of perfluorinated organic compounds comprising electrochemically fluorinating a non-fluorinated or a partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride having a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte. In response, the claims as presently written appear to disclose a process at least in a similar manner as disclosed by Bulan (see pages 5-6 of the Office Action dated February 14, 2002). There does not appear to be any method limitations set forth in the instant claims to distinguish the instant claims from the prior art. Therefore, the present claims lack the recitation of those details that would have distinguished the claims from the prior art.

#### Claim Rejections - 35 USC § 103

I. Claims **2, 5 and 6** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Heider et al.** (US Patent No. 6,264,818) as applied to claims 1 and 7-10 above.

The rejection of claims 2, 5 and 6 under 35 U.S.C. 103(a) as being unpatentable over Heider et al. as applied to claims 1 and 7-10 above is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that Heider process simply does not have meaningful details that would have motivated the artisan to modify Heider and practice a process for the continuous preparation of perfluorinated organic compounds comprising electrochemically fluorinating a non-fluorinated or a partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride having a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte. In response, there is no requirement that the motivation to make the modification be expressly articulated in one or more of the references. The teaching, suggestion or inference can be found not only in the references but also from knowledge generally available to one of ordinary skill in the art. *Ashland Oil v. Delta Resins* 227 USPQ 657 (CAFC 1985). References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In re Simon* 174 USPQ 114 (CCPA 1972); *In re Richman* 165 USPQ 509, 514 (CCPA 1970).

Applicants state that Heider teaches a non-continuous process. In response, Heider teaches that the electrolysis took place at a cell voltage of from 4.0 to 5.1 volts and at a current density of from 0.44 to 0.55 A/dm<sup>2</sup>, and was terminated after 517 Ah

throughput (col. 4, lines 21-24). The electrolysis was continuous until after 517 Ah throughput (also see cols. 4-8, Examples 2-4) because Heider does not teach that the cell voltage or current density is stopped or interrupted. Therefore, the electrolysis was continuous.

Applicants state that Heider teaches a mixture of hydrogen fluoride and the material to be fluorinated (the "starting material") is added batchwise to the electrolyte. In response, present claim 7 recites that the addition of the non-fluorinated or the partially fluorinated compound (= the material to be fluorinated) is carried out continuously or discontinuously. A discontinuous addition would have been a batchwise addition. Thus, a batchwise addition of the starting material would have been a continuous process because similar process steps can reasonably be expected to yield similar results (present claim 7 (i.e., discontinuous addition) is dependent upon claim 1 (a continuous process)).

Furthermore, Heider teaches that the electrolysis took place at a cell voltage of from 4.0 to 5.1 volts and at a current density of from 0.44 to 0.55 A/dm<sup>2</sup>, and was terminated after 517 Ah throughput (col. 4, lines 21-24). The electrolysis was continuous until after 517 Ah throughput (also see cols. 4-8, Examples 2-4) because Heider does not teach that the cell voltage or current density is stopped or interrupted. Therefore, the electrolysis was continuous.

II. Claims **2, 5-6 and 8-9** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 2,725,211** as applied to claims 1, 7 and 10 above.

The rejection of claims 2, 5-6 and 8-9 under 35 U.S.C. 103(a) as being unpatentable over DE 2,725,211 as applied to claims 1, 7 and 10 above is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants' state that one of ordinary skill following the teachings of DE '211 would have not been motivated to modify DE '211 and practice Applicants' invention. DE 211's teachings (a) use anodes having surfaces that have been mechanically roughened and (b) simply does not have meaningful details that would have led one of ordinary skill in the art to Applicants' invention. In response, the claims as presently written use the word "comprising". The use of the word "comprising" opens the claim to (or does not exclude) using (a) anodes having surfaces that have been mechanically roughened.

As to (b) simply does not have meaningful details that would have led one of ordinary skill in the art to Applicants' invention, the claims as presently written appear to disclose a process at least in a similar manner as disclosed by DE '211. There does not appear to be any method limitations set forth in the instant claims to distinguish the instant claims from the prior art. Therefore, the present claims lack the recitation of those meaningful details that would have distinguished the present invention from the prior art.



III. Claims **2, 5 and 9** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Bulan et al.** (US Patent No. 5,366,597) as applied to claims 1, 4, 6-8 and 10 above.

The rejection of claims 2, 5 and 9 under 35 U.S.C. 103(a) as being unpatentable over Bulan et al. as applied to claims 1, 4, 6-8 and 10 above is as applied in the Office Action dated February 14, 2002 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that Bulan simply lacks the details to disclose a process for the continuous preparation of perfluorinated organic compounds comprising electrochemically fluorinating a non-fluorinated or a partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride having a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte.

In response, the claims as presently written appear to disclose a process at least in a similar manner as disclosed by Bulan (see pages 11-12 of the Office Action dated February 14, 2002). There does not appear to be any method limitations set forth in the instant claims to distinguish the instant claims from the prior art. Therefore, the present claims lack the recitation of those details that would have distinguished the present invention from the prior art.

***Response to Amendment***

***Claim Rejections - 35 USC § 112***

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4

line 2, "compounds" (plural) lack antecedent basis.

***Claim Rejections - 35 USC § 102***

I. Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by **Heider et al.** (US Patent No. 6,264,818).

Heider teaches a process for the continuous preparation of perfluorinated organic compounds comprising the step of:

electrochemically fluorinating a non-fluorinated or partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride (col. 2, lines 3-26; and col. 8, claim 1) that has a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte (col. 4, lines 10-18; col. 5, lines 9-18 and 57-65; col. 6, lines 32-40; and col. 7, lines 45-53).

The addition of non-fluorinated or partially fluorinated compounds is carried out continuously (cols. 3-8, Examples 1-4).

The hydrogen fluoride has a water content of less than about 300 ppm (= 0 ppm), a sulfuric acid content of less than about 300 ppm (= 0 ppm) and an arsenic content of less than about 10 ppm (= 0 ppm).

II. Claim **11** is rejected under 35 U.S.C. 102(b) as being anticipated by **DE 2,725,211**.

The DE reference teaches a process for the continuous preparation of perfluorinated organic compounds comprising the step of:

electrochemically fluorinating a non-fluorinated or partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride that has a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte (= a quantity of electricity of  $\geq 1$  Ah/cm<sup>3</sup> of electrolyte) [Derwent abstract].

The addition of non-fluorinated or partially fluorinated organic compounds is carried out continuously or discontinuously (abstract).

The hydrogen fluoride has a water content of less than about 300 ppm (= 0 ppm), a sulfuric acid content of less than about 300 ppm (= 0 ppm) and an arsenic content of less than about 10 ppm (= 0 ppm).

III. Claims **11** is rejected under 35 U.S.C. 102(b) as being anticipated by **Bulan et al.** (US Patent No. 5,366,597).

Bulan teaches a process for the continuous preparation of perfluorinated organic compounds comprising the step of:

electrochemically fluorinating a non-fluorinated or partially fluorinated organic compound with an electrolyte comprising hydrogen fluoride that has a quantity of charge that ranges from about 5 Ah per kg of electrolyte to about 600 Ah per kg of electrolyte

(col. 2, lines 18-41).

The addition of non-fluorinated or partially fluorinated organic compounds is carried out continuously or discontinuously (= continuously metered) [col. 3, lines 9-10 and 26-28; and col. 4, lines 14-16].

The hydrogen fluoride has a water content of less than about 300 ppm (= 0 ppm), a sulfuric acid content of less than about 300 ppm (= 0 ppm) and an arsenic content of less than about 10 ppm (= 0 ppm).

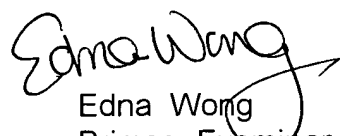
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (703) 308-3818. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Edna Wong  
Primary Examiner  
Art Unit 1741

EW  
September 6, 2002